

Please amend the application as follows:

IN THE CLAIMS\*:

C1  
1. (Twice Amended) A method comprising contacting an alkane having from 2 to 4 carbon atoms to a catalyst that includes at least about 50% nickel oxide by weight and dehydrogenating said alkane with a selectivity of greater than 70% and a conversion of greater than 10%.

C2  
6. (Twice Amended) A process for the oxidative dehydrogenation of an alkane having from 2 to 4 carbon atoms comprising contacting said alkane in the presence of oxygen to a compound that includes at least about 50% nickel oxide by weight at a temperature of less than or equal to about 400°C and obtaining a selectivity in said dehydrogenation of greater than 70% and a conversion of greater than 10%.

C3  
7. (Amended) The process of claim 6 wherein said selectivity is greater than 75%.

8. (Amended) The process of claim 7 wherein said selectivity is greater than 80%.

\* An "Appendix to Amendments" is enclosed at Appendix A, showing the amendments to the claims. In that Appendix, the added portion of text is underscored and the deleted portion is bracketed.

C3 9. (Amended) The process of claim 8 wherein said selectivity is greater than 85%.

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~~12. (Amended) The process of claim 11 wherein said selectivity is greater than 75%.~~

C4 13. (Amended) The process of claim 12 wherein said selectivity is greater than 80%.

14. (Amended) The process of claim 13 wherein said selectivity is greater than 85%.

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C5 15. (Twice Amended) The process of claim 11 wherein said conversion is greater than 15%.

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C6 67. (Twice Amended) A method for the oxidative dehydrogenation of ethane to ethylene, optionally with ethylene as a co-feed with said ethane, comprising contacting ethane in the presence of oxygen to a catalyst that includes at least about 50% nickel oxide by weight with either niobium oxide or tantalum oxide.

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Please add the following claims:

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C7 68. (Added) The method according to claim 1, wherein the contacting step is carried out at a temperature of less than or equal to about 400°C.

*[Handwritten signature]*

*C7*

69. (Added) The method according to claim 67,  
wherein the contacting step is carried out at a temperature  
of less than or equal to about 400°C.

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